

# Project Investment Justification

## ADOT Data Center Migration

### **DT20013**

## Department of Transportation

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## 1. GENERAL INFORMATION

**PIJ ID:** DT20013

**PIJ Name:** ADOT Data Center Migration

**Account:** Department of Transportation

**Business Unit Requesting:** Information Technology Group (ITG)

**Sponsor:** Steve West

**Sponsor Title:** Chief Information Officer (CIO)

**Sponsor Email:** swest@azdot.gov

**Sponsor Phone:** (602) 712-8343

## 2. MEETING PRE-WORK

2.1 What is the operational issue or business need that the Agency is trying to solve? (i.e....current process is manual, which increases resource time/costs to the State/Agency, and leads to errors...):

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Currently, every cloud-based application, e.g., Google, changes network traffic patterns. This requires re-architecture at both the enterprise level and within the Arizona Department of Transportation (ADOT) network to provide users with reasonable response times. ADOT users in remote offices do not have sufficient network capacity to leverage cloud services, due to network traffic and cloud traffic sharing the same transmission lines. In support of the Governor's Cloud First Initiative, the ADOT data center footprint must be reduced by relocating equipment to the State Shared Hosted Data Center.

2.2 How will solving this issue or addressing this need benefit the State or the Agency?

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Addressing this issue allows delivery of mission critical hosted applications, utilizing enhanced routing capability to ADOT facilities in a more efficient manner, and will enable ADOT to stay in compliance with the Governor's Initiatives.

2.3 Describe the proposed solution to this business need.

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While there is no fast track to make all the changes needed, ADOT has developed a business plan to meet these demands. ADOT is in the midst of digital transformation, adopting more cloud services to deliver better value.

The Legislature did not approve ADOT's FY 2021 Cloud Initiative and Data Center Relocation Budget Decision Package. Additionally, the Joint Legislative Budget Committee and Office of Strategic Planning and Budget did not recommend funding for the SDWAN portion of the budget request. As a result, ADOT has very limited funding to execute the original plan as outlined in the budget decision package.

Due to the limited funding available, this Project Investment Justification includes (phase 2) setup and configuration for Cloud Operating Models, Security and Compliance, Landing Zone, and 2008 Server & SQL Migration planning areas.

Phase 1: Cloud Assessment (Feb 2020 – April 2020)

ADOT completed an internal application and server assessment

Phase 2: AWS & Security Configuration (April 2020 – June 2020)

Configuration of AWS landing zone, cloud operating models, security and compliance.

Proof of concept and development of standard work processes

Phase 3: Implementation/AWS Migration (July 2020 – June 2021)

Migration of cloud ready applications and servers to new AWS environment

Number of applications/servers migrated will be dependent upon availability of operating funds (Estimate ~\$500,000 in FY 2021)

2.4 Has the existing technology environment, into which the proposed solution will be implemented, been documented?

Yes

2.4a Please describe the existing technology environment into which the proposed solution will be implemented.

2.5 Have the business requirements been gathered, along with any technology requirements that have been identified?

Yes

2.5a Please explain below why the requirements are not available.

### 3. PRE-PIJ/ASSESSMENT

3.1 Are you submitting this as a Pre-PIJ in order to issue a Request for Proposal (RFP) to evaluate options and select a solution that meets the project requirements?

No

3.1a Is the final Statement of Work (SOW) for the RFP available for review?

3.2 Will you be completing an assessment/Pilot/RFP phase, i.e. an evaluation by a vendor, 3rd party or your agency, of the current state, needs, & desired future state, in order to determine the cost, effort, approach and/or feasibility of a project?

No

3.2a Describe the reason for completing the assessment/pilot/RFP and the expected deliverables.

3.2b Provide the estimated cost, if any, to conduct the assessment phase and/or Pilot and/or RFP/solicitation process.

3.2e Based on research to date, provide a high-level cost estimate to implement the final solution.

### 4. PROJECT

4.1 Does your agency have a formal project methodology in place?

Yes

4.2 Describe the high level makeup and roles/responsibilities of the Agency, Vendor(s) and other third parties (i.e. agency will do...vendor will do...third party will do).

ADOT ITG Project Manager - responsible for the budget, procurement, and coordination of the project

Sponsor - responsible for the approval of the project deliverables and issue resolution

Vendor - responsible for onboarding/implementation, configuration and training

4.3 Will a PM be assigned to manage the project, regardless of whether internal or vendor provided?

Yes

4.3a If the PM is credentialed, e.g., PMP, CPM, State certification etc., please provide certification information.

4.4 Is the proposed procurement the result of an RFP solicitation process?

No

4.5 Is this project referenced in your agency's Strategic IT Plan?

Yes

## 5. SCHEDULE

5.1 Is a project plan available that reflects the estimated Start Date and End Date of the project, and the supporting Milestones of the project?

Yes

5.2 Provide an estimated start and finish date for implementing the proposed solution.

Est. Implementation Start Date

Est. Implementation End Date

4/20/2020 12:00:00 AM

6/30/2020 12:00:00 AM

5.3 How were the start and end dates determined?

Based on funding

5.3a List the expected high level project tasks/milestones of the project, e.g., acquire new web server, develop software interfaces, deploy new application, production go live, and estimate start/finish dates for each, if known.

Milestone / Task	Estimated Start Date	Estimated Finish Date
Security and Compliance Workshop	04/20/20	05/01/20
Operating Model Workshop	04/20/20	05/01/20
Security and Operating Model Playbook	05/04/20	05/15/20
Creating 3 Landing Zones	05/11/20	05/18/20
Design Documentation for Landing Zone	05/18/20	06/05/20
Perform Windows Migration	06/08/20	06/30/20
Dev Workspace POC and Migration	06/08/20	06/30/20

5.4 Have steps needed to roll-out to all impacted parties been incorporated, e.g. communications, planned outages, deployment plan?

Yes

5.5 Will any physical infrastructure improvements be required prior to the implementation of the proposed solution. e.g., building reconstruction, cabling, etc.?

No

5.5a Does the PIJ include the facilities costs associated with construction?

5.5b Does the project plan reflect the timeline associated with completing the construction?

## 6. IMPACT

6.1 Are there any known resource availability conflicts that could impact the project?

No

6.1a Have the identified conflicts been taken into account in the project plan?

6.2 Does your schedule have dependencies on any other projects or procurements?

No

6.2a Please identify the projects or procurements.

6.3 Will the implementation involve major end user view or functionality changes?

No

6.4 Will the proposed solution result in a change to a public-facing application or system?

No

## 7. BUDGET

7.1 Is a detailed project budget reflecting all of the up-front/startup costs to implement the project available, e.g, hardware, initial software licenses, training, taxes, P&OS, etc.?

Yes

7.2 Have the ongoing support costs for sustaining the proposed solution over a 5-year lifecycle, once the project is complete, been determined, e.g., ongoing vendor hosting costs, annual maintenance and support not acquired upfront, etc.?

Yes

7.3 Have all required funding sources for the project and ongoing support costs been identified?

Yes

7.4 Will the funding for this project expire on a specific date, regardless of project timelines?

Yes

7.5 Will the funding allocated for this project include any contingency, in the event of cost over-runs or potential changes in scope?

No

## 8. TECHNOLOGY

8.1 Please indicate whether a statewide enterprise solution will be used or select the primary reason for not choosing an enterprise solution.

The project is using a statewide enterprise solution

8.2 Will the technology and all required services be acquired off existing State contract(s)?

Yes

8.3 Will any software be acquired through the current State value-added reseller contract?

No

8.3a Describe how the software was selected below:

8.4 Does the project involve technology that is new and/or unfamiliar to your agency, e.g., software tool never used before, virtualized server environment?

No

8.5 Does your agency have experience with the vendor (if known)?

Yes

8.6 Does the vendor (if known) have professional experience with similar projects?

Yes

8.7 Does the project involve any coordination across multiple vendors?

Yes

8.8 Does this project require multiple system interfaces, e.g., APIs, data exchange with other external application systems/agencies or other internal systems/divisions?

Yes

8.9 Have any compatibility issues been identified between the proposed solution and the existing environment, e.g., upgrade to server needed before new COTS solution can be installed?

No

8.9a Describe below the issues that were identified and how they have been/will be resolved, or whether an ADOA-ASET representative should contact you.

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8.10 Will a migration/conversion step be required, i.e., data extract, transformation and load?

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Yes

8.11 Is this replacing an existing solution?

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No

8.11a Indicate below when the solution being replaced was originally acquired.

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8.11b Describe the planned disposition of the existing technology below, e.g., surplus, retired, used as backup, used for another purpose:

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8.12 Describe how the agency determined the quantities reflected in the PIJ, e.g., number of hours of P&OS, disk capacity required, number of licenses, etc. for the proposed solution?

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These determinations were based on information from prior projects and an assessment of the environment, along with input from Subject Matter Experts.

8.13 Does the proposed solution and associated costs reflect any assumptions regarding projected growth, e.g., more users over time, increases in the amount of data to be stored over 5 years?

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Yes

8.14 Does the proposed solution and associated costs include failover and disaster recovery contingencies?

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Yes

8.14a Please select why failover and disaster recovery is not included in the proposed solution.

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8.15 Will the vendor need to configure the proposed solution for use by your agency?

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Yes

8.15a Are the costs associated with that configuration included in the PIJ financials?

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Yes

8.16 Will any app dev or customization of the proposed solution be required for the agency to use the project in the current/planned tech environment, e.g. a COTS app that will req custom programming, an agency app that will be entirely custom developed?

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No

8.16a Will the customizations inhibit the ability to implement regular product updates, or to move to future versions?

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8.16b Describe who will be customizing the solution below:

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8.16c Do the resources that will be customizing the application have experience with the technology platform being

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used, e.g., .NET, Java, Drupal?

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8.16d Please select the application development methodology that will be used:

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8.16e Provide an estimate of the amount of customized development required, e.g., 25% for a COTS application, 100% for pure custom development, and describe how that estimate was determined below:

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8.16f Are any/all Professional & Outside Services costs associated with the customized development included in the PIJ financials?

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8.17 Have you determined that this project is in compliance with all applicable statutes, regulations, policies, standards & procedures, incl. those for network, security, platform, software/application &/or data/info found at [aset.az.gov/resources/psp](http://aset.az.gov/resources/psp)?

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Yes

8.17a Describe below the compliance issues that were identified and how they have been/will be resolved, or whether an ADOA-ASET representative should contact you:

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8.18 Are there other high risk project issues that have not been identified as part of this PIJ?

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No

8.18a Please explain all unidentified high risk project issues below:

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## 9. SECURITY

9.1 Will the proposed solution be vendor-hosted?

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Yes

9.1a Please select from the following vendor-hosted options:

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Commercial data center environment, e.g AWS, Azure

9.1b Describe the rationale for selecting the vendor-hosted option below:

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Compliance with the State's Cloud First mandate.

9.1c Has the agency been able to confirm the long-term viability of the vendor hosted environment?

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Yes

9.1d Has the agency addressed contract termination contingencies, e.g., solution ownership, data ownership, application portability, migration plans upon contract/support termination?

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Yes

9.1e Has a Conceptual Design/Network Diagram been provided and reviewed by ASET-SPR?

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No

9.1f Has the spreadsheet located at <https://aset.az.gov/arizona-baseline-security-controls-excel> already been completed by the vendor and approved by ASET-SPR?

No

9.2 Will the proposed solution be hosted on-premise in a state agency?

No

9.2a Where will the on-premise solution be located:

9.2b Were vendor-hosted options available and reviewed?

9.2c Describe the rationale for selecting an on-premise option below:

9.2d Will any data be transmitted into or out of the agency's on-premise environment or the State Data Center?

9.3 Will any PII, PHI, CGIS, or other Protected Information as defined in the 8110 Statewide Data Classification Policy be transmitted, stored, or processed with this project?

No

9.3a Describe below what security infrastructure/controls are/will be put in place to safeguard this data:

## 10. AREAS OF IMPACT

Application Systems

New Application Development

Database Systems

Other

Postgress DB

Software

Virtualization

Hardware

Hosted Solution (Cloud Implementation)

AWS (non-government) cloud

Security

Intrusion Prevention System (IPS)

Telecommunications

Other

Direct Connect from Iron Mountain to AWS

Enterprise Solutions

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Disaster Recovery/Business Continuity

Contract Services/Procurements

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## 11. FINANCIALS

Description	PIJ Category	Cost Type	Fiscal Year Spend	Quantity	Unit Cost	Extended Cost	Tax Rate	Tax	Total Cost
Professional Services	Professional & Outside Services	Development	1	1	\$366,500	\$366,500	0.00 %	\$0	\$366,500

Base Budget (Available)	Base Budget (To Be Req)	Base Budget % of Project
\$366,500	\$0	100%
APF (Available)	APF (To Be Req)	APF % of Project
\$0	\$0	0%
Other Appropriated (Available)	Other Appropriated (To Be Req)	Other Appropriated % of Project
\$0	\$0	0%
Federal (Available)	Federal (To Be Req)	Federal % of Project
\$0	\$0	0%
Other Non-Appropriated (Available)	Other Non-Appropriated (To Be Req)	Other Non-Appropriated % of Project
\$0	\$0	0%

Total Budget Available	Total Development Cost
\$366,500	\$366,500
Total Budget To Be Req	Total Operational Cost
\$0	\$0
Total Budget	Total Cost
\$366,500	\$366,500

## 12. PROJECT SUCCESS

Please specify what performance indicator(s) will be referenced in determining the success of the proposed project (e.g. increased productivity, improved customer service, etc.)? (A minimum of one performance indicator must be specified)

Please provide the performance objective as a quantifiable metric for each performance indicator specified.

**Note:** The performance objective should provide the current performance level, the performance goal, and the time period within which that performance goal is intended to be achieved. You should have an auditable means to measure and take corrective action to address any deviations.

**Example:** Within 6 months of project completion, the agency would hope to increase "Neighborhood Beautification" program registration by 20% (3,986 registrants) from the current registration count of 19,930 active participants.

Performance Indicators

100% dispositioning of each application - Deployment of enhanced routing services to planned facilities - 770 virtual Servers and 93 sequel Servers will be decommissioned or relocated - Total Cost of Ownership =< current operations

## 13. CONDITIONS

Conditions for Approval

Should development costs exceed the approved estimates by 10% or more, or should there be significant changes

to the proposed technology scope of work or implementation schedule, the Agency must amend the PIJ to reflect the changes and submit it to ADOA-ASET, and ITAC if required, for review and approval prior to further expenditure of funds.

## 14. OVERSIGHT SUMMARY

### Project Background

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ADOT is responsible for the safety of AZ highways. The State shift to cloud based applications such as enterprise email is changing the ADOT network traffic patterns. The traffic pattern changes have informed ADOT of a need to re-architecture at both the enterprise level and within the Arizona Department of Transportation (ADOT) network. ADOT has proposed a Data Center Migration project consisting of three phases: Phase 1: Cloud Assessment, Phase 2: AWS & Security Configuration and Phase 3: Implementation/AWS Migration. This Project Investment Justification (PIJ) is, Phase 2, setup and configuration for Cloud Operating Models, Security and Compliance, Landing Zone, and 2008 Server & SQL Migration planning areas. The information technology group (ITG) is responsible for network infrastructure and security for ADOT. ITG will be building this platform in an AWS environment and performing the migration.

### Business Justification

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ADOT is working to comply with the Governor's Cloud First Initiative. Addressing the network traffic issues allows delivery of mission critical hosted applications, utilizing enhanced routing capability to ADOT facilities in a more efficient manner.

### Implementation Plan

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ADOT ITG Project Manager - is responsible for the budget, procurement, the platform in AWS and coordination of the project to include migration to AWS.

Project Sponsor - is responsible for the approval of the project deliverables and issue resolution.

Vendor - is responsible for on-boarding/implementation, configuration and training.

### Vendor Selection

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Professional services will be acquired through the State Carahsoft contract. The vendor, AWS, has a proven track record of success working with Arizona agencies migrating applications into the Cloud and was selected by ADOT for past success, speed of implementation and cost effectiveness.

Ongoing support/operational costs will be acquired thru the existing support agreement with AWS.

### Budget or Funding Considerations

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The project development and implementation costs are accounted for in the agency's base budget. Ongoing operating costs will also be from the agency base budget.

## 15. PIJ REVIEW CHECKLIST

Agency Project Sponsor

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Steve West

Agency CIO (or Designee)

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Steve West

Agency ISO (or designee)

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Thomas Branham

OSP Representative

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ASET Engagement Manager

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ASET SPR Representative  
Thomas Considine

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Agency SPO Representative

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Agency CFO  
Kristine Ward

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